

Notice of Allowability

Application No.

09/866,797

Examiner

HOAN C. NGUYEN

Applicant(s)

MIYACHI ET AL.

Art Unit

2871

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address—

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to election filed on 9/2/2004.
2. ☒ The allowed claim(s) is/are 42-107.
3. ☒ The drawings filed on 30 May 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joe Rhoa (Reg. No. 37,515) on 12/9/2004.

Mr. Rhoa authorizes to cancel claims 1-41.

DETAILED ACTION

Allowable Subject Matter

Claims 42-107 are allowed.

Reasons for Allowance

Claims 42, 47, 52, 57, 62 and 67 are allowed since there is no prior art teaches a liquid crystal display apparatus comprising quarter wavelength layers having n_{z4} substantially equal $(n_{x4} + n_{y4})/2$, where main refraction indexes in-plane directions are n_{x4} and while a main refraction index a normal direction is n_{z4} .

Claims 72, 78, 84, 90, 96 and 102 are allowed since there is no prior art teaches a liquid crystal display apparatus comprising polarizers and quarter wavelength layers, wherein set at less than one eighth of the wavelength of the transmitted light is each absolute value of a retardation in a perpendicular direction from said polarizer to said quarter wavelength layer.

Claims 43-46, 48-51, 53-56, 58-61, 63-66, 68-71, 73-77, 79-83, 85-89, 91-95, 97-101 and 103-107 are allowed since they depend on the allowed claims.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Yamanaka et al. (US 5966242 A) disclose an anisotropic body such as a quarter-wave plate may have different refractive indexes in different directions, where n_x is a refractive index in the direction X (=1.5922), n_y is a refractive index in the direction Y (=1.5900), n_z is a refractive index in the direction Z (=1.5900).

Kaneko (US 6552767 B1) discloses an reflection-type liquid crystal display device of single polarizing film type comprising two sheets of the retardation films made of a constituent material having the same wavelength dependency of refractive index, it becomes possible to form a so-called wide-band quarter-wavelength film wherein retardation values in a short wavelength region are smaller than those in a long wavelength region.

Sasaki et al. (JP 2003114325 A) disclose a quarter-wave plate suited to compensate birefringence, wherein the quarter-wave plate is constructed by laminating a quarter-wave plate satisfying a relation $N_z=(n_x-n_z)/(n_x-n_y)>1.05$.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number

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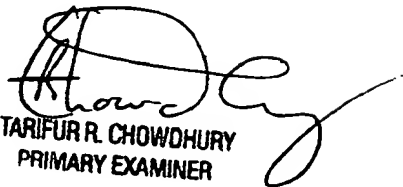
is (571) 272-2296. The examiner can normally be reached on MONDAY-
THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the
examiner's supervisor, Kim H Robert can be reached on (571) 272-2293. The
fax phone number for the organization where this application or proceeding is
assigned is 703-872-9306.

Information regarding the status of an application may be obtained from
the Patent Application Information Retrieval (PAIR) system. Status information
for published applications may be obtained from either Private PAIR or Public
PAIR. Status information for unpublished applications is available through
Private PAIR only. For more information about the PAIR system, see [http://pair-
direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR
system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-
free).

HOAN C. NGUYEN
Examiner
Art Unit 2871

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TARIFUR R. CHOWDHURY
PRIMARY EXAMINER